

5 We claim:

1. A mobile communications infrastructure platform, comprising:

 a networking module including a plurality of inputs and outputs and
including a POTS line connection;

 a satellite module coupled to said networking module for uplinking
10 and downlinking a satellite datastream with a communications satellite;

 a video module for providing a video datastream to said networking
module; and

 a wireless telecommunications module bidirectionally coupled to
said networking module for receiving telecom data from and transmitting
15 telecom data to said networking module, said wireless telecommunications
module including:

 a VOIP interface coupled to said networking module;

 a land mobile radio coupled to said VOIP interface; and

 a private cellular network for providing private wireless
20 cellular service independent of commercial cellular providers.

2. A mobile communications infrastructure platform as in claim 1, wherein a
second node provides dial tone via satellite to telephonic equipment at a site of
deployment of the platform.

25 3. A mobile communications infrastructure platform as in claim 1, wherein the
private cellular network is a cellular base station supporting Advanced Mobile Phone
Service (AMPS) protocol or Code-Division Multiple Access (CDMA) protocol.

30 4. A mobile communications infrastructure platform as in claim 1, wherein the
wireless module includes a VoIP router and a conversion/deconversion mechanism for
providing voice, audio, and/or speech signals to the VoIP router.

5. A mobile communications infrastructure platform as in claim 1, wherein the
35 wireless module includes networking module includes an ATM switch for multiplexing,
demultiplexing and allocating bandwidth to combine voice and data packets into a single
composite data channel.

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6. A mobile communications infrastructure platform as in claim 5, wherein the ATM switch provides a wired or a wireless LAN with encryption.

10 7. A mobile communications infrastructure platform as in claim 1, wherein the networking module includes:

a DSO interface for connecting to a telephonic PSTN (Public Switched Telephone Network) network; and

a LAN connected to a data network that includes at least one of the internet, a proprietary corporate network, or a governmental communications network.

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8. A mobile communications infrastructure platform as in claim 1, wherein the networking module accepts a variety of commercial and private telephony services and converts them both in signal type, conditioning and protocol for distribution to and from the platform.

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9. A mobile communications infrastructure platform as in claim 1, wherein the networking module accepts DS0, DS1, T1 and PRI and converts to FXS (foreign exchange station). Telephony distribution system that accepts FXO (foreign exchange office) analog dial tone and converts to DSO, DS1, T1 and PRI.

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10. A mobile communications infrastructure platform as in claim 1, wherein the platform provides telephonic and data communication networks without relying on regional landline communication links.

30 11. A mobile communications infrastructure platform as in claim 1, further comprising an earth station.

12. A mobile communications infrastructure platform as in claim 1, further comprising an analog switch coupling said VOIP interface to a micromatrix and said land
35 mobile radio.

5 13. A mobile communications infrastructure platform as in claim 1, wherein said infrastructure platform is installed in a vehicle.

 14. A mobile communications infrastructure platform as in claim 1, further comprising compatible methods and equipment for accelerating throughput for standard
10 protocols through satellite channels or any other channel with a high latency.

 15. A mobile communications infrastructure platform as in claim 1, wherein the wireless module provides multiple cross-bands wirelessly over an encrypted wireless link such that a first land mobile radio operating on a first frequency or hopset is linked via the
15 platform to a second land mobile radio operating on a second frequency or hopset, thereby enabling communications between the first and second land mobile radios.

 16. A mobile infrastructure linkage system, comprising:
 an earth station;
20 a networking module including a plurality of inputs and outputs and including a POTS line connection;
 a satellite module coupled to said networking module for uplinking and downlinking a satellite datastream with a communications satellite;
 a video module for providing a video datastream to said networking
25 module; and
 a wireless telecommunications module bidirectionally coupled to said networking module for receiving telecom data from and transmitting telecom data to said networking module, said wireless telecommunications module including:
30 a VOIP interface coupled to said networking module;
 a land mobile radio coupled to said VOIP interface; and
 a private cellular network.

35 17. A mobile infrastructure linkage system as in claim 16, wherein a second node provides dial tone via satellite to telephonic equipment at a site of deployment of the platform.

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18. A mobile infrastructure linkage system as in claim 16, wherein the private cellular network is a cellular base station supporting Advanced Mobile Phone Service (AMPS) protocol or Code-Division Multiple Access (CDMA) protocol.

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19. A mobile infrastructure linkage system as in claim 16, wherein the wireless module includes a VoIP router and a conversion/deconversion mechanism for providing voice, audio, and/or speech signals to the VoIP router.

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20. A mobile infrastructure linkage system as in claim 16, wherein the wireless module includes networking module includes an ATM switch for multiplexing, demultiplexing and allocating bandwidth to combine voice and data packets into a single composite data channel.

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21. A mobile infrastructure linkage system as in claim 20, wherein the ATM switch provides a wired or a wireless LAN with encryption.

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22. A mobile infrastructure linkage system as in claim 16, wherein the networking module includes:

a DSO interface for connecting to a telephonic PSTN (Public Switched Telephone Network) network; and

a LAN connected to a data network that includes at least one of the internet, a proprietary corporate network, or a governmental communications network.

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23. A mobile infrastructure linkage system as in claim 16, wherein the networking module accepts a variety of commercial and private telephony services and converts them both in signal type, conditioning and protocol for distribution to and from the platform.

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24. A mobile infrastructure linkage system as in claim 16, wherein the networking module accepts DS0, DS1, T1 and PRI and converts to FXS (foreign exchange station).
Telephony distribution system that accepts FXO (foreign exchange office) analog dial tone and converts to DS0, DS1, T1 and PRI.

5 25. A mobile infrastructure linkage system as in claim 16, wherein the platform provides telephonic and data communication networks without relying on regional landline communication links.

 26. A mobile infrastructure linkage system as in claim 16, further comprising an
10 analog switch coupling said VOIP interface to a micromatrix and said land mobile radio.

 27. A mobile infrastructure linkage system as in claim 16, wherein said system is a mesh configuration.

15 28. A mobile infrastructure linkage system as in claim 16, wherein said system is a hub configuration.

 29. A mobile infrastructure linkage system as in claim 16, further comprising compatible methods and equipment for accelerating throughput for standard protocols
20 through satellite channels or any other channel with a high latency.

 30. A method of establishing a mobile infrastructure linkage system at a desired location, comprising:

 providing a mobile communications infrastructure platform comprising:

25 a networking module including a plurality of inputs and outputs and including a POTS line connection;

 a satellite module coupled to said networking module for uplinking and downlinking a satellite datastream with a communications satellite;

 a video module for providing a video datastream to said networking
30 module; and

 a wireless telecommunications module bidirectionally coupled to said networking module for receiving telecom data from and transmitting telecom data to said networking module, said wireless telecommunications module including:

35 a VOIP interface coupled to said networking module;

 a land mobile radio coupled to said VOIP interface; and

 a private cellular network;

- 5 establishing a satellite signal link to said platform;
 booting platform computers, networking modules, video modules, and wireless
modules;
 programming the land mobile radio to a specific region or agency;
 commencing satellite signal acquisition; and
10 establishing a satellite communications link between the platform and a second
system node.

31. A method as in claim 30, wherein the second system node is a second said
mobile communications infrastructure platform.

15 32. A method as in claim 30, wherein the second system node is an earth station.

33. A method as in claim 30, wherein the platform is positioned on a vehicle, and
wherein the method further comprises:
20 positioning the vehicle to optimize satellite look angles and minimize a dead zone
of an antenna pedestal;
 deploying vehicle stabilization jacks;
 providing an on-site-generated power source for the platform; and
 providing an antenna controller for initializing GPS and a flux gate compass.

25 34. A method as in claim 30, further comprising providing dial tone via satellite to
telephonic equipment at a site of deployment of the platform.

35 35. A method as in claim 30, further comprising multiplexing, demultiplexing and
30 allocating bandwidth to combine voice and data packets into a single composite data
channel.

36. A method as in claim 30, further comprising providing a wired or a wireless
LAN with encryption.

35 37. A method as in claim 30, wherein telephonic and data communication
networks are provided without relying on regional landline communication links.

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38. A method as in claim 30, further comprising providing compatible methods and equipment for accelerating throughput for standard protocols through satellite channels or any other channel with a high latency.

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